UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte RICHARD ANTHONY VERE HODGE and RAYMOND F. SCHINAZI

Appeal No. 2005-1148
Application No. 08/945,249

ON BRIEF

Before ELLIS, ADAMS and GRIMES, Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

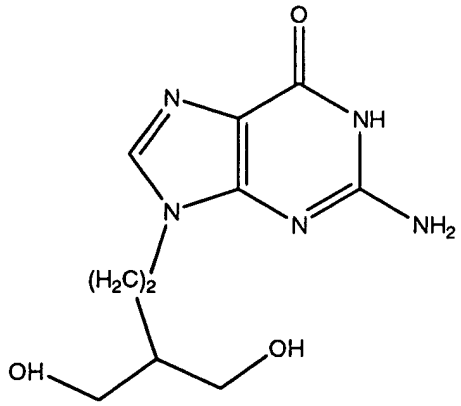
DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, 4 and 16-20, which are all the claims pending in the application.

Claims 1 and 4 illustrative of the subject matter on appeal and are reproduced below:

1. A method of treatment of:

i) HIV-1 infections in mammals, including humans; or
ii) HBV infections in mammals, including humans;
which method comprises the administration to the human in need of such treatment, an effective amount of the (R)-enantiomer of the triphosphate of a compound of formula (A):



(A)

((R)-PCV-TP), or a pharmaceutically acceptable salt thereof.

4. The method according to [c]laim 1 wherein the (R)-PCV-TP is in the form of a bioprecursor which is a PL-ASOR derivative, phospholipids derivative, (R)-MP Bis(POM) derivative, (R)-MP diphenyl ester derivative, or dimyristoylglycerol diphosphate derivative of (R)-PCV-MP which liberates intracellularly (R)-PCV-MP which is in turn converted to (R)-PCV-TP.

The reference relied upon by the examiner:

Boyd et al. (Boyd)	EP 0 388 049	Sep. 19, 1990
Kenig et al. (Kenig)	WO 92/00742	Jan. 23, 1992

GROUND OF REJECTION

Claims 1, 4 and 16-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over either Kenig or Boyd.

We affirm the rejection of claim 1, and reverse the rejection of claims 4 and 16-20.

CLAIM CONSTRUCTION

The method of claim 1 is for the treatment of either HIV-1 or HBV infections in mammals, including humans[1]. The claim refers to a compound of formula (A), which is known in the art as penciclovir. See e.g., Appellants' Specification, page 1; Boyd, page 2, lines 1-19; and Kenig, page 1, lines 7-18. According to claim 1, the method comprises the administration of an effective amount of the (R)-enantiomer of the triphosphate of penciclovir. As we understand it, while the claim requires the presence of the (R)-enantiomer of the triphosphate of penciclovir, by use of the term comprising, the claim is also open to include the (S)-enantiomer of the triphosphate of penciclovir. Accordingly, we disagree with Appellants' statement (Brief, page 3), "Appellants' claims are directed to a method of treating HIV-1 or HBV infection by use of the (R)-enantiomer of penciclovir triphosphate." As we understand the invention of claim 1, from which all other pending claims depend, the claim is open to the administration of a racemic mixture of penciclovir triphosphate.

In addition, we note that claim 4 modifies the scope of claim 1 to read on the administration of a bioprecursor, or prodrug form, of the triphosphate of penciclovir, which is converted, intracellularly, to penciclovir triphosphate. Claim 4 depends from claim 1 and further requires that the penciclovir triphosphate be in the form of a specific bioprecursor, "which liberates intracellularly (R)-PCV-MP

---

[1] While the claim refers to the treatment of HIV-1 and HBV inventions in mammals, including humans, the claim also states "the administration to the human in need of such treatment." Upon further prosecution, we encourage the examiner and appellants to work together to determine whether the phrase "administration to the human in need of such treatment" is a typographical error and should read "administration to the mammal in need of such treatment."

[penciclovir monophosphate] which is in turn converted to (R)-PCV-TP [penciclovir triphosphate]." Accordingly, as we understand it, for claim 4 to properly depend from, and further limit claim 1, claim 1 must be open to include within its scope not only the administration of penciclovir triphosphate, but also the administration of a bioprecursor of penciclovir triphosphate that is intracellularly converted to penciclovir triphosphate. Claim 4 then further limits claim 1 to the administration of specific bioprecursors of penciclovir triphosphate.

DISCUSSION

According to the examiner (Answer, page 3), both Kenig and Boyd "teach the claimed compounds as old and well known in combination with various pharmaceutical carriers and excipients in a dosage form," for use in treating the "viral diseases herein claimed." In response, Appellants assert (Brief, page 3), the Kenig and Boyd references (1) do not disclose penciclovir triphosphate, (2) do not disclose the (R)-isomer of this compound, and (3) teach a different use of penciclovir than is required by Appellants' claimed invention.

With respect to (1) above, we note that Kenig teaches the inhibition of HIV-1 reverse transcriptase by PCV-triphosphate. Kenig, page 3, lines 1-5; and page 10, Table 2. In addition, Boyd teach (Boyd, page 3, lines 55-58), "[t]he present invention also provides the use of ... [penciclovir] or a prodrug, or a ... phosphate ester ... of either of the foregoing, in the preparation of a medicament for use in the treatment of hepatitis B virus infections in mammals, including

humans." Accordingly, we are not persuaded by Appellants' assertion that the references do not disclose penciclovir triphosphate. "The test for obviousness is not express suggestion of the claimed invention in any or all of the references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them." In re Rosselet, 347 F.2d 847, 851, 146 USPQ 183, 186 (CCPA 1965). Appellants' assertion to the contrary, it is our opinion that the references would have suggested penciclovir triphosphate to a person of ordinary skill in the art at the time the invention was made.

With respect to (2) above, the examiner "agrees the specific isomer is not disclosed...." Answer, page 4. However, as discussed above, claims 1 and 4 are open to read on a racemic mixture of penciclovir and therefore are not limited to the "(R)-isomer of this compound" as Appellants' intimate. As we understand Kenig and Boyd, the references teach the use of a racemic mixture of penciclovir and penciclovir pro-drug formulations or phosphate esters and acyl derivatives thereof to treat HIV-1 (Kenig, bridging paragraph, pages 3-4), or HBV (Boyd, page 3, lines 55-58). Accordingly, we are not persuaded by Appellants' emphasis on the (R)-isomer of penciclovir.

With respect to (3) above, we note that Kenig teaches (Kenig, bridging paragraph, pages 3-4):

> the present invention provides a method of treatment of HIV-1 infections in mammals, including humans, which mammals are infected with herpesviruses, which method comprises the administration to the mammal in need of such treatment, an effective amount of ... [penciclovir] or a pro-drug, or a

> pharmaceutically acceptable salt, phosphate ester and/or acyl derivative of either of the foregoing.

In addition, we note that Boyd teaches (Boyd, page 3, lines 55-58), "[t]he present invention also provides the use of ... [penciclovir] or a prodrug, or a pharmaceutically acceptable salt, phosphate ester and/or acyl derivative of either of the foregoing, in the preparation of a medicament for use in the treatment of hepatitis B virus infections in mammals, including humans." Thus, we are not persuaded that Kenig and Boyd teach the use of penciclovir that is different from appellants' claimed invention. Accordingly, we are not persuaded by Appellants' assertion that Kenig and Boyd teach a different use of penciclovir than is required by Appellants' claimed invention.

Appellants further assert (Brief, page 3), "[t]here is no question that Appellants have discovered that the (R)-enantiomer of PCV-TP[2] is more active than the (S)-enantiomer of PCV-TP for the claimed uses." Appellants then direct our attention (Brief, pages 3-5) to a number of different references in an attempt to demonstrate that "the (R) PCV-TP enantiomers would be a more active inhibitor of HBV DNA polymerases and HIV-1 reverse transcriptase than the (S)-enantiomer of PCV." Brief, page 5. Upon consideration of appellants' arguments, we find it sufficient to note that the arguments are not commensurate in scope with the claimed invention which is not limited to the (R)-enantiomer of penciclovir triphosphate, but are instead open to read on a racemic mixture of

---

[2] Penciclovir triphosphate.

Claim 1:

According to Appellants, claim 1 stands or falls separately from claims 4 and 16-20. Brief, page 2.

As discussed above, claim 1 is open to read on the administration of a racemic mixture of penciclovir triphosphate in addition to a pro-drug, or bioprecursor, of penciclovir triphosphate which is intracellularly converted to penciclovir triphosphate. In addition, as discussed above, both Kenig and Boyd teach the use of phosphate esters of penciclovir in the treatment of HIV-1 (Kenig) and HBV (Boyd). In our opinion, a person of ordinary skill in the art at the time the invention was made would have recognized that penciclovir triphosphate is a phosphate ester of penciclovir. "The test for obviousness is not express suggestion of the claimed invention in any or all of the references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them." Rosselet.

Further, to the extent that claim 1 reads on a bioprecursor of penciclovir triphosphate, e.g., penciclovir, which is intracellularly converted to penciclovir triphosphate, we find that Kenig teaches (page 3), "[p]enciclovir would be phosphorylated by herpes virus-encoded thymidine kinase leading to a high level of penciclovir triphosphate. The triphosphate formed is not only an inhibitor of herpes DNA polymerase, but this work indicates that it also inhibits HIV reverse transcriptase."

Accordingly, for the foregoing reasons we affirm the rejection of claim 1 under 35 U.S.C. § 103 as being unpatentable over either Kenig or Boyd.

Claims 4 and 16-20:

Claim 4 sets forth in Markush format, five specific bioprecursors of penciclovir triphosphate which are required to intracellularly liberate penciclovir monophosphate, which is in turn converted to penciclovir triphosphate. Each of these five bioprecursors of penciclovir triphosphate is separately enumerated in claims 16-20.

According to appellants (Brief, page 6), "[t]here is no teaching or suggestion in the cited prior art of the specific bioprecursor phosphate esters claimed herein in [c]laims 4 and 16-20. There is nothing in either Boyd et al. or Kenig et al. to teach or suggest the use of these bioprecursors." The examiner offers no response to this assertion. Instead, the examiner asserts (page 11), "the instant claims must stand, or fall, together." Apparently, the examiner is of the opinion that appellants' assertion (Brief, page 6), that neither Kenig or Boyd teach the specific bioprecursor phosphate esters set forth in claims 4 and 16-20 is not a "separate argument." See Answer, page 3, "[t]he instant claims are not separately argued, or illustrated as separately distinguishable over the art of record." We disagree.

Upon review of the record, we find that the examiner failed to identify a specific teaching, and we find no teaching, in either Kenig and Boyd that would suggest the specific bioprecursors of penciclovir triphosphate required by claims 4 and 16-20. Stated differently, we find no evidence of record that would support an obviousness rejection of claims 4 and 16-20. In this regard, we remind the examiner that "[t]he Patent Office has the initial duty of supplying the

factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967).

"A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)). If the examiner fails to establish a prima facie case, the rejection is improper and will be overturned. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

For the foregoing reasons, it is our opinion that the examiner failed to meet his burden[3] of establishing a prima facie case of obviousness. Accordingly, we reverse the rejection of claims 4 and 16-20 under 35 U.S.C. § 103 as being unpatentable over either Kenig or Boyd.

[3] The initial burden of presenting a prima facie case of obviousness rests on the examiner. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

Joan Ellis
Administrative Patent Judge

Donald E. Adams
Administrative Patent Judge

Eric Grimes
Administrative Patent Judge

) BOARD OF PATENT
) APPEALS AND
) INTERFERENCES

NOVARTIS
CORPORATE INTELLECTUAL PROPERTY
ONE HEALTH PLAZA 104/3
EAST HANOVER NJ 07936-1080